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REPORT NO. 6

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# Cotton Fiber and Processing Test Results

CROP of

1977



Agricultural Marketing Service  
U.S. DEPARTMENT OF AGRICULTURE  
Memphis, Tenn. 38122 December 2, 1977

## COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1977

### Discussion of Test Results

Southwestern short staple cottons tested through November 25 are slightly longer, more uniform and finer than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Fiber strength is considerably stronger than last season. Picker and card waste is lower. Yarns spun from these samples are stronger. The average spinning potential yarn number is much higher.

Average results of all medium staple cottons tested show fibers to be longer, more uniform and coarser than a year ago. Shirley Analyzer nonlint content is higher but picker and card waste is a little lower. Yarns spun from these samples are weaker and have lower appearance grades. Yarn imperfections are higher.

Medium staple samples tested from the Southeast show approximately the same fiber characteristics as a year ago. Yarns spun from these samples are weaker and have lower appearance grades. The spinning potential yarn number is lower.

South Central medium staple samples tested are longer, more uniform and coarser than last season. Zero gage fiber is somewhat lower. Shirley Analyzer nonlint content is higher. Yarns spun from these samples show weaker yarn skein strength and lower appearance grades. Yarn imperfections are higher. The spinning potential is slightly higher.

Southwestern medium staple samples tested showed about the same fiber characteristics as a year ago, except fiber strength at zero gage is higher. Picker and card waste is lower than last season. Yarns spun from these samples show lower appearance grades. Yarn imperfections are fewer. Spinning potential is lower.

Medium staple samples tested from the West are more uniform, coarser and stronger than a year ago. Yarns spun from these samples are slightly stronger, but have lower appearance grades. Yarn imperfections are higher. Spinning potential yarn number is higher. Several spinning lots of cotton from this area stuck to the processing rolls.

Long staple samples from the Southeast are shorter, coarser and weaker at 1/8 gage strength tests. Both Shirley Analyzer nonlint content and picker and card waste are higher. Carded yarns spun from these samples are weaker and have lower appearance grades. Spinning potential yarn number is lower.

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These reports are published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.<sup>1/</sup> These reports are available on request from the Standardization Section, Cotton Division, Agricultural Marketing Service, U. S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN 38122.

<sup>1/</sup> Summary of Cotton Fiber and Processing Test Results, Crop of 1976, USDA, AMS, Cotton Division, June 1977.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States  
through November 25, 1977 1/

Staple group Area, and Crop year	Lots tested	Fiber test results							Processing test results								
		Fibrograph		Mike fine- ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.					
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appear- ance	Imperf- actions						
				Inches			Pct.	Rdg.				Mpsi	G/tex	Pct.	Lbs.	Index	No.
Short Staple: Southwest 1976 1977	15 56	.97 .98	44 46	4.5 4.2	85 89	20 22	3.4 3.3	7.3 5.5	84 100	110 110	14 13	35 48					
Medium Staple: Southeast 1976 1977	23 26	1.08 1.07	46 45	4.7 4.8	86 87	23 22	3.2 3.2	6.2 6.2	106 95	101 95	20 19	55 50					
South Central 1976 1977	80 118	1.08 1.11	44 45	4.3 4.6	89 86	23 23	2.9 3.5	6.1 6.1	108 104	100 95	16 22	55 57					
Southwest 1976 1977	27 43	1.07 1.08	45 46	4.1 4.2	81 86	22 22	3.2 3.2	6.3 5.7	104 103	97 91	20 18	57 54					
West 1976 1977	24 36	1.12 1.12	45 46	4.1 4.3	89 96	25 26	2.3 2.5	5.5 5.4	121 124	90 87	20 23	67 71					
U.S. Average 1976 1977	154 223	1.08 1.10	45 46	4.3 4.5	87 87	23 23	2.7 3.3	6.0 5.9	109 105	98 93	18 21	57 58					
Significant dif- ference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2	3					

1/ Based on a limited number of samples of modal quality  
2/ Minimum differences considered to be significant for comparisons in this table.

Table 1.--Cotton:

Averages of fiber and processing tests from selected gin points in the United States  
through November 25, 1977

1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results						Processing Test Results									
		Length		Mike	Strength		SA Non- lint	P&C Waste	Comber Waste	Yarn Quality					SPY		
		Span	Unif		Zero gage	1/8" gage				Strength carded	Lbs. carded	Indx carded	Appearance combed	Imprfctns card		No. comb	
No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.		
22s Carded & Combed Yarn																	
Long Staple: Southeast	1976	6	1.16	45	4.4	87	26	2.8	6.2	15.8	119	140	107	120	20	8	70
	1977	7	1.12	45	4.8	87	23	3.2	7.2	*	100	*	104	*	15	*	57
South Central	1976	2	1.12	42	3.8	91	26	3.4	6.6	20.8	111	138	100	105	16	8	57
	1977	2	1.14	44	4.4	90	24	3.8	6.8	*	105	*	95	*	26	*	63
West	1976	-	1.18	47	4.2	90	27	3.2	5.5	*	129	*	93	*	25	*	81
	1977	3	1.18	47	4.2	90	27	3.2	5.5	*	129	*	93	*	25	*	81
Significant Difference 2/		0.02	2	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality

2/ Minimum differences considered to be significant for comparisons in this table.

\* Combed data not available.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification				Fiber Test Results						Processing Test Results - Carded Yarns															
Sample Number				Digital Fibrograph		Mike	Fiber Strength		Elon- gatin	S.A. Non- lint		Color Raw Stock		P & C		Strength		Elongation		Appearance Index		Imprfect'ns		Spin. Poten- tial	
No	Grade	Name & Code	Stple	2.5% span	In	Pct	Rdg	Mpsi	Zero Gage	1/8" Gage	Pct	Pct	Gra	Yel	Waste	Lbs	Lbs	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx	8s or 74 tx	22sor 27 tx		
SOUTHWEST AREA																									
NORTHWEST TEXAS																									
ANSON																									
2 MID	LT SP	32	31	0.95		47	3.5	84		LANKART 611	22	7.1	4.4	1	4	6.1	300	100	8.2	6.3	110	110	36	19	46
100 PERCENT																									
8URKURNETT																									
2 MID	LT SP	32	32	1.02		47	4.6	90		LANKART LX571	23	6.0	3.2	1	4	6.0	290	103	7.4	6.0	120	110	28	16	50
97 PERCENT																									
GOREE																									
2 MID	LT SP	32	32	1.01		44	3.6	94		TAMCOT SP21	23	5.7	2.9	1	4	4.6	324	108	7.7	6.3	110	100	30	17	55
80 PERCENT																									
HALE CENTER																									
1 SLM		41	34	1.03		46	4.1	84		GSA71	23	7.0	4.7	1	3	6.4	308	106	7.8	6.7	120	110	21	10	59
85 PERCENT																									
LAMESA																									
3 MID	LT SP	32	31	0.95		46	4.2	89		8LIGHTMASTER A5	20	6.2	2.9	1	4	5.3	293	96	7.6	6.3	130	110	19	11	45
75 PERCENT																									
LOCKNEY																									
2 MID	LT SP	32	33	1.04		45	3.9	85		MORCOT M78	22	6.0	4.0	1	4	5.4	308	106	7.8	6.4	120	110	19	11	57
80 PERCENT																									
LOCKNEY																									
1 MID		31	31	0.92		47	5.2	82		PAYMASTER 18	21	6.7	2.9	1	3	5.6	268	84	7.3	5.9	120	130	18	13	36
80 PERCENT																									
LOOP																									
1 MID		31	31	0.97		49	3.9	95		PAYMASTER 266	27	6.1	3.8	1	4	5.5	334	116	7.5	6.4	120	120	25	15	62
95 PERCENT																									
LORENZO																									
2 MID		31	33	1.04		44	3.7	85		PAYMASTER 303	22	6.2	2.9	1	4	4.8	306	105	7.8	6.6	120	110	20	10	61
80 PERCENT																									
PADUCAH																									
1 MID		31	31	0.98		47	4.3	86		LANKART 57	22	6.4	3.8	1	4	5.3	298	101	7.7	6.2	130	110	18	8	53
70 PERCENT																									
PLAINS																									
1 LM		51	32	0.97		45	3.9	90		GSA71	22	5.8	5.4	2	3	8.4	310	106	7.5	6.2	120	100	29	13	53
75 PERCENT																									
SNYDER																									
1 MID		31	31	0.98		46	4.5	92		WESTERN SP44	22	6.4	2.4	1	4	4.6	296	96	7.5	6.0	120	110	21	11	45
85 PERCENT																									
TULIA																									
1 SLM	LT SP	42	31	0.94		48	4.5	88		STRIPPER 31	22	6.3	5.0	1	4	6.5	313	98	7.6	6.3	120	110	26	14	39
80 PERCENT																									

1/ Cotton stuck to processing rolls

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification				Fiber Test Results										Processing Test Results - Carded Yarns									
Sample Number		Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color Raw Stock		P & C		Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Potent-ial		
		2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel	Waste	8s or 74 tx	22sor 27 tx	8s or 22sor 74 tx	8s or 22s or 74 tx	8s or 22sor 74 tx	8s or 22sor 74 tx	8s or 22sor 74 tx	22sor 74 tx	27 tx			
No	Grade	Stple	32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No		
SOUTHWEST AREA--(continued)																							
OKLAHOMA																							
GRANDFIELD																							
2	MID LT SP	32	32	1.02	48	4.6	92	LANKART 57	23	5.8	3.6	1	4	5.6	299	99	7.4	6.0	120	100	20	15	49
MINCO																							
1	MID LT SP	32	31	0.98	47	4.8	84	LANKART 611	21	6.4	2.5	1	4	4.1	292	98	7.7	6.3	120	110	20	11	49

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
No	Grade	Style	32s	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint		Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprct'ns		Spin. Potent- ial	
				2.5% span	In		Pct	Rdg		Mpsi	G/tex	Pct	Pct		Gra	Yel	Pct	Lbs	Lbs	22s or 27 tx	50s or 12 tx	Pct		22s or 27 tx
SOUTHEAST AREA																								
ALABAMA																								
MERIDIANVILLE																								
3	LM	SP	53	33	1.04	44	5.1	92	21	5.4	4.3	6	4	8.4	100 PERCENT		70 19 1/ 4.0		3.7	90	60	22	21	25
WILSONVILLE																								
3	SLM	LT SP	42	34	1.08	44	4.4	85	23	6.6	4.4	2	3	6.4	90 PERCENT		96 30 5.9		4.5	90	70	17	14	56
GEORGIA																								
BOSTWICK																								
1	SLM	SP	43	33	1.00	45	5.2	86	20	5.6	4.0	5	5	7.0	100 PERCENT		82 26 4.8		3.3	100	80	16	15	36
SHELLMAN																								
1	MID	LT SP	32	33	1.06	45	5.2	84	24	6.5	2.5	3	4	5.6	80 PERCENT		97 28 5.7		3.9	100	80	12	10	51
SOUTHCAROLINA																								
CHESTER																								
2	SLM	LT SP	42	35	1.11	46	4.5	91	24	5.3	4.0	3	4	6.1	100 PERCENT		110 36 5.5		4.2	100	90	15	14	63
SOUTH CENTRAL AREA																								
ARKANSAS																								
BISCOE																								
3	SLM	LT SP	42	35	1.08	47	5.0	86	22	6.1	3.9	3	3	6.6	99 PERCENT		97 31 5.7		3.8	100	70	19	16	53
LEACHVILLE																								
3	LM		51	35	1.11	46	4.8	83	24	6.4	3.6	3	3	6.4	100 PERCENT		97 31 5.6		4.1	90	70	27	20	59
WILSON																								
3	SLM	LT SP	42	35	1.09	44	4.2	89	23	6.3	2.8	4	3	5.8	100 PERCENT		109 35 6.2		4.3	90	70	12	12	60
WYNNE																								
3	LM		51	34	1.12	42	4.6	84	25	6.7	4.4	3	3	5.3	100 PERCENT		102 44 6.3		4.5	100	80	17	13	63
LOUISIANA																								
ALEXANDRIA																								
2	LM		51	34	1.06	46	4.7	81	21	6.4	2.9	3	2	5.2	75 PERCENT		92 30 5.9		4.4	90	70	24	18	52
LAKE PROVIDENCE																								
3	SLM		41	36	1.16	44	4.2	82	23	7.2	3.0	1	2	5.6	100 PERCENT		109 44 6.3		4.5	90	70	21	17	71
LAKE PROVIDENCE																								
3	LM		51	35	1.11	45	4.9	91	23	5.3	4.6	2	2	6.7	100 PERCENT		97 30 5.2		3.8	80	60	24	24	53

1/ End breakage too high to spin 50s yarn. 26s yarn spun and strength adjusted to equivalent of 50s.

1/ End breakage too high to spin 50s yarn. 36s yarn spun and strength adjusted to equivalent of 50s.

Table 3 --Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1977--(Continued)

Production Area, Classification & Sample Number				Fiber Test Results						Processing Test Results - Carded Yarns												
No	Grade	Style	32s In span	Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprct'ns		Spin. Potent- ial
				2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
SOUTH CENTRAL AREA--(Continued)																						
LOUISIANA--(Continued)																						
MONROE																						
2	SLM		41 35	1.09	47	4.4	82	23	7.2	3.3	1	3	5.3	100 PERCENT		4.8	90	60	28	18	62	
SICILY ISLAND																						
3	SLM LT SP	42	35	1.10	46	4.6	83	22	6.5	4.8	3	3	6.9	100 PERCENT		4.0	90	70	25	17	54	
MISSISSIPPI																						
BELZONI																						
3	LM		51 35	1.13	46	4.2	88	24	6.8	4.3	2	2	7.1	100 PERCENT		4.7	90	70	16	14	66	
BRANDON																						
2	SLM		41 34	1.10	45	4.7	81	21	6.8	3.0	2	3	6.7	75 PERCENT		3.8	90	70	18	13	41	
EDWARDS																						
2	SLM		41 34	1.09	46	4.5	82	21	6.0	3.4	1	3	5.8	98 PERCENT		4.1	90	70	20	14	53	
GLENDORA																						
3	LM		51 36	1.14	47	4.9	91	23	5.0	4.9	3	2	6.9	100 PERCENT		3.7	100	70	23	14	53	
GREENVILLE																						
3	LM		51 35	1.10	46	4.4	92	23	5.7	5.7	2	2	8.1	100 PERCENT		4.0	90	60	33	23	62	
SCOTT																						
3	LM		51 35	1.14	43	3.8	87	24	6.9	4.3	2	2	6.2	100 PERCENT		4.5	90	60	21	18	68	
MISSOURI																						
HAYTI																						
3	SLM		41 35	1.12	45	4.6	88	23	5.8	3.5	2	3	5.9	98 PERCENT		4.3	90	70	19	17	57	
PARMA																						
3	LM		51 35	1.08	46	4.9	84	22	6.5	4.3	3	3	7.5	100 PERCENT		3.8	90	70	28	24	48	
TENNESSEE																						
RIDGELY																						
3	SLM LT SP	42	34	1.08	44	4.4	86	22	5.9	3.9	3	3	6.5	90 PERCENT		3.8	90	60	32	22	48	
SOUTHWEST AREA																						
NORTHWEST TEXAS																						
ACKERLY																						
3	MID		31 31	0.95	46	4.3	89	19	5.6	3.2	0	4	5.9	70 PERCENT		3.8	90	70	12	12	39	





Table 4 --Cotton, American upland long staple: Quality characteristics by production areas, crop of 1977

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns																														
				Digital Fibrograph		Mike	Fiber Strength		Elon- gat'n 1/8"	S.A. Non- Lint	Color Raw Stock		P & C and Comber Waste	Strength		Elongation		Appearance Index		Imprfct'ns		Spin. Poten- tial																						
							Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx																							
				No	Grade	Style	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Pct	Pct	No	No	No	No	No																				
																					32s																							
																					SOUTHEAST AREA																							
																					GEORGIA																							
																					MADISON																							
42	1 SLM	LT SP	42	33	1.05	45	5.1	92	22	5.5	3.4	4	4	4	10.8	91	100 PERCENT	28	4.8	3.4	110	90	15	12	50																			
																					COKER 310																							
																					WEST AREA																							
																					NEW MEXICO																							
																					HATCH																							
32	1 MID	LT SP	32	37	1.20	47	4.1	91	28	5.9	3.6	1	3	3	5.2	131	99 PERCENT	50	6.4	5.3	90	60	31	24	97																			
																					ACALA 1517-75																							
																					LAS CRUCES																							
31	1 MID		31	36	1.14	46	4.7	85	24	6.6	1.7	1	3	3	4.5	121	100 PERCENT*	43	5.9	5.0	90	70	23	14	78																			
																					ACALA 1517-V																							
																					WEST TEXAS																							
																					CLINT																							
41	1 SLM		41	37	1.20	47	3.3	93	28	5.7	4.4	2	3	3	6.8	136	70 PERCENT	51	6.1	4.9	100	70	20	17	67																			
																					ACALA 1517-70																							

\* 100% selected for tests, less than 100% in area

